What is claimed is:

1.   An automated end-to-end business process for product sales that uses a relational database management system, the process comprising the steps of:

a first user inputting a sales record to the database for an order of a customer;

automatically generating a customer invoice;

a second user inputting a customer payment record to the database, wherein system privileges of the first user and the second user are at least partially mutually exclusive;

automatically determining a status of the customer payment as reconciled or not reconciled; and

during each of the foregoing inputting steps, qualifying user inputs using experiential constraints, based on the then-current state of the database as a whole.

2.   The method of Claim 1, wherein the process uses a single database described by a single database schema.

3.   The method of Claim 1, wherein the business process is based on a virtual-inventory model for the sale of tangible goods, the process comprising the further steps of:

a third user placing a purchase order for goods in accordance with the sales record and inputting purchasing information to the database;

automatically generating a vendor invoice record; and

a fourth user receiving the goods.

4.   The method of Claim 3, comprising the further step of, during the inputting of purchasing information, qualifying user inputs using experiential constraints, based on the then-current state of the database as a whole.

5.   The method of Claim 3, wherein system privileges of the first, second, third and fourth users are at least partially mutually exclusive.

6.   The method of Claim 3, wherein the database contains a Sales Record file, a related Items Sold file containing a single consolidated record for a quantity of multiple identical items, and a related Item Details file containing a separate record for each separate item of said quantity, wherein receiving the goods comprises:

    automatically determining a group of Sales Records having Items Sold not yet fully received;

    selecting within the database a Sales Record from said group of Sales Records and selecting from the Sales Record a related Items Sold record; and

    for each separate item of said quantity, inputting a serial number from an item of the physical goods into a field within a separate Item Details record.

7.   The method of Claim 3, wherein the at least some of the goods require assembly or installation, the process comprising the further steps of:

    during order entry, the first user inputting installation instructions and identifying items required to be shipped together to the customer.

8.   The method of Claim 7, comprising the further step of, during the inputting of installation instructions, qualifying user inputs using experiential constraints, based on the then-current state of the database as a whole.

9.   The method of Claim 7, comprising the further step of automatically adding to the customer invoice an installation charge.

10.   The method of Claim 7, comprising the further step of, when an item together with any other item required to be shipped together with it to the customer have been received, automatically generating at least one of a shipping worksheet and a packing slip.

11.   The method of Claim 3, comprising the further steps of:

inputting to the database actual vendor invoice information; and

automatically determining a status of the vendor invoice as reconciled or not reconciled.

12.   The method of Claim 11, comprising the further step of automatically determining a detailed status of non-reconciled vendor invoices in accordance with a plurality of categories of discrepancies.

13.   The method of Claim 12, wherein a vendor invoice may belong to a plurality of categories of discrepancies, the method comprising the further step of sorting vendor invoices in accordance with a hierarchy of discrepancies such that a vendor invoice having both a discrepancy higher in the hierarchy and a discrepancy lower in the hierarchy is sorted into a group of vendor invoices belonging to the discrepancy of the higher category.

14.   The method of Claim 13, comprising the further steps of:

for a non-reconciled vendor invoice, inputting to the database a Vendor Expected Credit record;

offsetting an amount of the Vendor Expected Credit against the non-reconciled vendor invoice; and

changing the status of the non-reconciled vendor invoice to recon-

ciled.

15.   The method of Claim 1, comprising the further steps of:

at intervals, performing a suite of database checks using experien-

tial constraints;

detecting a condition requiring user attention;

identifying a user responsible for attending to the condition; and

automatically reporting the condition to the identified user.

16.   The method of Claim 15, comprising the further steps of:

detecting an error;

troubleshooting the error; and

adding to the system an additional experiential constraint to prevent

future occurrences of the error.

17.   The method of Claim 1, comprising the further step of inputting to

the database a Return Merchandise Authorization record relating to a sales record,

the Return Merchandise Authorization record specifying one of a plurality of

return types.

18.   The method of Claim 17, wherein return types includes a plurality

of the following types: credit, replacement, and warranty.

19.   The method of Claim 17, comprising the further step of automati-

cally completing selected fields of the Return Merchandise Authorization record as

being not applicable in accordance with the specified return type.

20.   The method of Claim 17, comprising the further step of automati-

cally grouping a sales record to which the Return Merchandise Authorization per-

tains with sales records having one or more items to be received.

21.   The method of Claim 20, comprising the further steps of:

receiving a returned item; and

automatically generating a credit memo for said returned item.

22.   The method of Claim 1, comprising the further steps of:

receiving a Return Merchandise Authorization request via a global

computer network, the request specifying return type;

evaluating the request based on a plurality of stored criteria in

accordance with the return type; and

if the applicable criteria are met, automatically assigning, and com-

municating to a user via the global computer network, a return authoriza-

tion number.

23.   The method of Claim 1, wherein the sales record includes a ship-to

address, the process comprising the further steps of:

automatically retrieving an applicable sales tax rate based on the

ship-to address and generating a sales tax record; and

from a multiplicity of sales tax records pertaining to a tax reporting

period, automatically generating a tax return.

24.   The method of Claim 1, wherein the sales record identifies a sales

representative, the process comprising the further steps of:

automatically retrieving an applicable commission rate based on the

sales representative; and

from a multiplicity of sales records pertaining to a pay period, auto-

matically generating a commission total for each of a plurality of sales rep-

resentatives.

25.   The method of Claim 1, comprising the further steps of:

identifying multiple persons each having a role in a sales transac-

tions; and

computing separate commissions for each of said multiple persons.

26.   The method of Claim 1, comprising the further steps of:

at periodic intervals automatically posting general ledger account-
ing entries for transactions posted since the previous interval, including
sales and customer payments; and

at a time determined by a user, automatically generating a financial
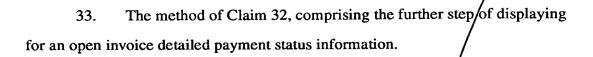statement indicative of at least one of profit/loss and cashflow.

27.   The method of Claim 26, wherein said periodic intervals are user-
scheduled.

28.   The method of Claim 26, wherein said time is scheduled by the user
in advance.

29.   The method of Claim 26, wherein said time is any time at which the
user inputs a predetermined command.

30.   The method of Claim 1, comprising the further steps of, for each of
said first user and said second user:

determining performance measurements quantifiable using data
stored within the single database; and

automatically calculating and maintaining a history of said perfor-
mance measurements.

31.   The method of Claim 1, wherein sales record information is acces-
sible remotely via a global computer network by authorized users.

32.   The method of Claim 1, wherein customer invoice information is
accessible remotely via a global computer network by authorized users.

33. The method of Claim 32, comprising the further step of displaying for an open invoice detailed payment status information.

34. The method of Claim 1, wherein vendor invoice information is accessible remotely via a global computer network by authorized users.

35. The method of Claim 32, comprising the further step of displaying for an open invoice detailed payment status information including a reason for non-payment.

36. A method of integrating business automation across multiple business domains and automatically reflecting automated business activities of one business domain within another business domain, the method comprising the steps of:

> providing a Web-enabled, client/server relational database management system storing a database described by a single database schema including files belonging to each of a first business domain dealing with products and a second business domain dealing with payments; and

> a user making modifications to a record within a file belonging to the first business domain, the database management system in response thereto automatically reflecting said modifications within files belonging to the second business domain.

37. The method of Claim 36, wherein the database further includes files belonging to a third business domain dealing with financial performance, the database management system, in response to a user making modifications to a record within a file belonging to one of the first and second business domains, automatically reflecting said modifications within a file belong to the third business domain.

38.   The method of Claim 37, wherein the database further includes files belonging to a fourth business domain dealing with personnel, wherein the database management system automatically alters a record of an employee or contractor having responsibilities within one or more of said first, second and third business domains by referencing records within files belong to said one or more of said first, second and third business domains.

39.   The method of Claim 36, comprising the further step of, at regular intervals, performing cross-checks between records of files belonging to different business domains.

40.   The method of Claim 39, wherein said cross-checks are performed during a nightly update routine.

41.   The method of Claim 36, comprising the further step of establishing and enforcing a division of responsibilities between different users of the database management system.

42.   The method of Claim 41, wherein each user within a group of users is assigned to a single business domain and is allowed to change only records of files belonging to that business domain.

43.   A method of business-to-business Web commerce between a first business acting as supplier and a second business acting as purchaser, using a computer net including a relational database server, the method comprising the steps of:

        storing user privileges for a plurality of user authorized by the purchaser to act on its behalf;

        authenticating and determining a privilege level of a user;

        the user entering product parameters;

identifying products in accordance with the product parameters and displaying product information for the products;

the user selecting at least one product from the displayed product information and requesting a price quote for the product;

producing and displaying a price quote for the product, the price quote including a quote number; and

storing the price quote within the database for future reference.

44.   The method of Claim 43, wherein the process uses a single database described by a single database schema.

45.   In a system for business-to-business Web commerce system between a first business acting as supplier and a second business acting as purchaser, using a computer net including a relational database server, a method of maintaining and updating a multi-vendor product list, comprising the steps of:

a user selecting a baseline vendor;

electronically retrieving product information from the baseline vendor;

electronically retrieving product information from at least one additional vendor;

comparing product information from said additional vendor with product information from the baseline vendor; and

if an identical product is offered by both the baseline vendor and said additional vendor, consolidating information from both the baseline vendor and the additional vendor into a common record for display.

46.   The method of Claim 45, wherein the process uses a single database described by a single database schema.

47.   A method of business-to-business Web commerce between a first business acting as supplier and a second business acting as purchaser using a computer net including a relational database server, the method providing for merchandise returns, comprising the steps of:

> storing in the database a record for each item sold;

> authenticating a user;

> the user entering information identifying at least one item of merchandise to be returned;

> creating a return record and notifying a representative authorized by the supplier to approve returns;

> approving the return and assigning a Return Merchandise Authorization number to the return record; and

> communicating to the user the Return Merchandise Authorization number.

48.   The method of Claim 47, wherein the process uses a single database described by a single database schema.

49.   The method of Claim 47, wherein communicating comprises sending to the user an electronic message including the Return Merchandise Authorization number.

50.   In a system for business-to-business Web commerce system between a first business acting as supplier and a second business acting as purchaser, using a computer net including a relational database server, a method of tracking financial information on a real-time basis and automatically generating a general ledger of accounts, the method comprising the steps of:

> automatically posting transactions by making corresponding general ledger entries continuously or at programmed intervals; and

automatically posting adjusting entries when records pertaining to transactions that have already been posted are modified.

51.   The method of Claim 50, wherein the process uses a single database described by a single database schema.

52.   In a system for business-to-business Web commerce system between a first business acting as supplier and a second business acting as pur-chaser, using a computer net including a relational database server, a method of processing accounts, the method comprising the steps of:

storing in the database customer invoices and vendor invoices;

identifying open vendor invoices;

applying a set of rules to the open vendor invoices and related records;

forming a determination based on the set of rules whether or not a particular open invoice should be paid; and

if the determination is that the particular open vendor invoice should be paid, electronically reminding a representative of the supplier accordingly.

53.   The method of Claim 52, wherein the process uses a single database described by a single database schema.

54.   In a system for business-to-business Web commerce system between a first business acting as supplier and a second business acting as pur-chaser, using a computer net including a relational database server, a method of employee evaluation comprising the steps of:

collecting activity information and storing it in the database;

determining a data-based standard of performance for a particular employee; and

automatically producing an electronic employee evaluation report based on the activity information and the standard of performance.

55.   The method of Claim 54, wherein the process uses a single database described by a single database schema.

56.   The method of Claim 54, comprising the further step of communicating via a global computer network the electronic employee evaluation report via a global computer network to at least one of the employee to whom the electronic employee evaluation report pertains and authorized supervisory personnel.

57.   In a relational database system, a method of displaying information, comprising the steps of:

for each of a plurality of base tables, identifying at least one related table;

providing a related switch GUI control displayed in conjunction with display of each of said plurality of base tables, for selecting a related table;

displaying records of one of said plurality of base tables;

a user selecting at least one record;

using said GUI control, said user selecting a related table;

performing a search to identify records in the related table that are related to said at least one record; and

displaying records of said related table identified by said search.

58.   In a relational database business automation system, a method of displaying information so as to facilitate user manipulation and interaction, comprising the steps of:

producing an information-rich display of complex database records each comprising multiple lines of text and pertaining to both a first party to

a business transaction and a second party to business transaction; and

proviidng a GUI control displayed in conjunctions with said information-rich display of complex database records;

a user selecting at least one of said complex database records; and

the user activating the GUI control, wherein activation of the GUI control has at least one of the following effects: taking a prescribed action in relation to the selected record and changing at least one field of said record within said database; changing the display to a functionally-related display; and bringing up a pop-up screen through which data may be entered, changing at least one field of said record within said database, the pop-up screen only partially obscuring said information-rich display.

59.   A method of order fulfillment using a relational database system in which customer order information and vendor order information are stored, comprising the steps of:

displaying customer order items for which vendor orders have not been placed;

in accordance with a user command, sorting customer order items by one of the following categories: item sold, vendor and availability;

a user grouping a plurality of customer order items and placing a single corresponding vendor order; and

refreshing the display so as to display only customer order items for which vendor orders have not been placed.

60.   The method of Claim 59, comprising the further steps of:

storing within the database information identifying items that must be shipped together;

grouping items having a backorder status;

placing vendor orders for customer order items having backorder

status; and

removing from the display items that must be shipped together with an ordered item having backorder status.

61. The method of Claim 59, comprising the further step of preparing records of ordered items so that the ordered items can be received.

62. The method of Claim 61, comprising the further steps of:

receiving ordered items and changing item records to reflect receipt; and

preparing records of received items for installation.

63. The method of Claim 62, comprising the further steps of:

installing received items; and

preparing records of installed items for shipping.

64. The method of Claim 63, comprising the further steps of:

shipping installed items; and

changing item records to reflect shipment.

65. A method of handling sales returns over a global computer network, comprising the steps of:

receiving a Return Merchandise Authorization request via a global computer network, the request specifying return type;

evaluating the request based on a plurality of stored criteria in accordance with the return type; and

if the applicable criteria are met, automatically assigning, and communicating to a user via the global computer network, a return authorization number.

66. The method of Claim 62, wherein placing the vendor order comprises communcating corresponding vendor order information to the appropriate vendor via a global computer network.

67. In a business-to-business automated Web commerce system, a security method for preventing unauthorized purchases, comprising the steps of:

for each of a plurality of customer companies, storing for at least one customer user authorization information including a first plurality of parameters, together with information about the scope of the authority of that user, including a second plurality of parameters;

each time customer access to the system is attempted, disallowing access unless valid name and password information is received; and

a customer user having accessed the system, each time particular actions are attempted, disallowing the action unless the action is within the scope of authority of the user.

68. The method of Claim 67, wherein the first plurality of parameters and the second plurality of parameters are customizable.

69. The method of Claim 67, wherein said first plurality of parameters includes user names and password.

70. The method of Claim 67, wherein said second plurality of parameters includes whether that user is authorized to purchase.

71. The method of Claim 70, wherein said second plurality of parameters includes a purchase amount limit.

72. The method of Claim 67, wherein the particular actions include purchasing.

73.   The method of Claim 67, comprising the further step of storing for each of a plurality of internal user s a limited privilege level limiting that user's ability to alter information stored within the system.

74.   The method of Claim 73, wherein only trusted users are assigned a privilege level that allows changing said authorization information.

75.   In a business-to-business automated Web commerce system, a method of specifying complex installation instruction regarding a plurality of purchase items using a graphical user interface, the method comprising the steps of:

> selecting a first primary item;

> selecting one or more secondary items to be installed with said first primary item;

> selecting a second primary item; and

> selecting one or more secondary items to be installed with said first primary item.

76.   An automated business process for product sales that uses a Web-enabled relational database management system to automate an integrated supply chain including a seller and a plurality of vendors, the process comprising the steps of:

> a seller placing vendor orders and entering order information into the database, the orders being communicated to the vendors through a global computer network;

> the seller receiving the orders in whole or in part and entering receiving information into the database;

> the vendors accessing receiving information through the global computer network to ensure prompt receipt of orders;

> the seller requesting return of selected order items; and

the vendors accessing return information through the global computer network and in response thereto communicating return merchandise authorization numbers to the seller through the global computer network.

77.   The method of Claim 76, wherein the process uses a single database described by a single database schema.

78.   The method of Claim 76, comprising the further steps of:

customers placing customer orders with the seller through the global computer network; and

customers accessing order tracking information through the global computer nework.

79.   The method of Claim 78, comprising the further step of customers and vendors accessing invoice information through the global computer network.

80.   A method of replacement parts order fulfillment, comprising the steps of:

placing an order for a replacement part;

entering the order within a Web-enabled relational database system;

tracking each significant event in the order fulfillment process within the relational database system; and

allowing a plurality of different parties to view the order status via the Web.

81.   A method of automating an end-to-end business process using a software program running on a relational database system, comprising the steps of:

as data is entered into the relational database system, qualifying data entries in accordance with a stored knowledge base;

displaying data together with GUI controls in such as way as to

allow a user to readily change the status of a record within the relational

database system in way determined by the stored knowledge base;

and users, based on their experience using the software program,

altering the stored knowledge base so as to increase the stored knowledge

base.

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